Amendment to the Claims:

1. (Previously Presented) A method for controlling a drive motor of a positive displacement vacuum pump, the method comprising:

storing a continuous curve indicating a respective speed n of the drive motor for inlet pressure values p, the curve comprising:

an upper range for inlet pressure values p larger than or equal to an upper limit pressure p_1, a single constant upper speed value n_1 being associated with said upper range, and

an alteration range for inlet pressure values p smaller than the upper limit pressure p_1, at least below the upper limit pressure, each inlet pressure value p being associated with a corresponding speed value n;

determining the inlet pressure value p;

determining from the curve, the speed n associated with the determined inlet pressure value p in the curve; and

operating the drive motor at the determined speed n, the determined speed value n being less than or equal to the upper speed value n_1.

2. (Previously Presented) The method according to claim 1, wherein the curve comprises a lower range for inlet pressure values p smaller than or equal to a lower limit pressure p_2, a single constant lower speed value n_2 being associated with the lower range, and the alteration range being limited to inlet pressure values p larger than the lower limit pressure p_2, the upper speed value n_1 being larger than the lower speed value n_2.

3. (Previously Presented) A method for controlling a drive motor of a positive displacement vacuum pump, the method comprising:

storing a continuous curve indicating a respective speed n of the drive motor for each inlet pressure value p, the curve comprising:

a lower range for inlet pressure values p smaller than or equal to a lower limit pressure p_2, a single constant lower speed value n_2 being associated with said lower range,

an alteration range for inlet pressure values p larger than the lower limit pressure p_2, each inlet pressure value p being associated with a corresponding speed value n for pressures above the lower limit pressure p_2;

determining the inlet pressure value p;

determining from the curve the speed n associated with the determined inlet pressure value p in the curve; and

operating the drive motor at the determined speed n, the speed n being equal to or greater than the lower speed value n_2.

4. (Previously Presented) The method according to claim 1, wherein the speed n decreases as the corresponding inlet pressure p decreases in the alteration range.

5. (Previously Presented) The method according to claim 2, wherein the upper limit value p_1 ranges between 20 mbar and 1 mbar, and the lower limit value p_2 ranges between 1.0 mbar and 0.005 mbar.

6. (Previously Presented) The method according to claim 2, wherein the upper constant speed value n_1 ranges between 2,200 and 1,000 rpm, and the lower constant speed value n_2 ranges between 300 and 1,300 rpm.

7. (Previously Presented) The method according to claim 1, wherein the positive displacement vacuum pump is a fore vacuum pump arranged upstream of a high vacuum pump, and the inlet pressure p is a suction-side pressure of the high vacuum pump.

8. (Previously Presented) The method according to claim 1, wherein the curve is saved in a characteristic diagram storage.

9. (Previously Presented) The method according to claim 1, wherein the drive motor is an asynchronous motor.

10-11. (Cancelled)

12. (Previously Presented) The method according to claim 3, wherein in the alteration range, each value of decreasing inlet pressure p is associated with a corresponding decreasing speed value n.

13. (Previously Presented) The method according to claim 3, wherein the positive displacement vacuum pump is a fore vacuum pump arranged upstream of a high vacuum pump, and the inlet pressure p is a suction-side pressure of the high vacuum pump.

14. (Previously Presented) The method according to claim 3, wherein the curve is saved in a characteristic diagram storage.

15. (Previously Presented) The method according to claim 3, wherein the drive motor is an asynchronous motor.

16. (Cancelled)

17. (Currently Amended) A positive displacement vacuum pump system comprising:

a vacuum pump;

a drive motor which drives a rotor of the vacuum pump at an adjustable drive speed n;

an inlet pressure sensor that senses an inlet pressure p at an inlet of the vacuum pump;

a memory which stores a preselected relationship between the inlet pressure p and the drive speed n, in which relationship [[each]] the inlet pressure p [[in (a)]] has an alteration range of operating pressures below an upper-pressure limit p_1 and/or above a lower limit pressure p_2, where each value of the inlet pressure p has a preselected corresponding drive speed n, [[and]]

in said preselected relationship, the inlet pressure p additionally has at least one of [[(b)]] an upper range of operating pressures larger than or equal to the upper pressure limit p_1 and a lower range of operating pressures equal to or less than the lower pressure limit p_2, where:

every inlet pressure p in the upper range has a single constant upper speed n_1 ~~being associated with the upper range~~, and

[[(c) a]] every inlet pressure p in the lower range ~~equal to or less than the lower pressure limit p_2,~~ has a single constant lower speed n_2 ~~being associated with a lower range~~; and

said system also includes a drive motor control which (1) determines a currently sensed inlet pressure p from the inlet pressure sensor, (2) determines a corresponding drive speed n corresponding to the current inlet pressure from the relationship stored in the memory, and (3) controls the drive motor to rotate the rotor at the determined corresponding drive speed n, the determined drive speed n being less than or equal to the upper speed value n_1 and greater than or equal to the lower speed value n_2.

18-19. (Cancelled)

20. (Previously Presented) The positive displacement pump system according to claim 17, wherein the relationship between the inlet pressure p and the drive speed n is a continuous curve.